

Claim 26 recites a method of manufacturing a fluid vaporizing device wherein liquid flows through a fluid passage comprising the steps of: (a) forming a fluid passage in a non-cylindrical body, the fluid passage having an inlet opening and an outlet opening, wherein the fluid passage has a volumetric capacity of about 1×10^{-6} ml to about 1.0 ml; and (b) providing a tubular heater by forming a thin resistive film inside said fluid passage such that the film lines all or part of the length of the passage.

Claim 45 recites a method of manufacturing an aerosol generator comprising the steps of forming a fluid passage in a body, the fluid passage having an inlet opening and an outlet opening and a transverse cross-sectional area of about $2 \times 10^{-3} \text{ mm}^2$ to about $8 \times 10^{-1} \text{ mm}^2$; and forming a thin resistive film inside at least a portion of the fluid passage such that the film lines the fluid passage to provide a tubular heater.

Claim 49 recites a method of manufacturing an inhaler comprising the steps of: forming a capillary sized fluid passage in a body, the capillary sized fluid passage having an inlet opening and an outlet opening; and forming a thin resistive film inside the capillary sized fluid passage such that the film lines the capillary sized fluid passage to form a tubular heater, incorporating the body in the inhaler, wherein the tubular heater is capable of heating fluid passing through the capillary sized passage to form an aerosol for inhalation through a portion of the inhaler.

The Office Action errs in stating that *Vogel* teaches: 1) forming a fluid passage in a body; and 2) providing a tubular heater by depositing a thin resistive film inside the passage (in the body).

Vogel does not disclose or suggest forming a fluid passage in a body. As illustrated in Figure 3A of *Vogel*, a preconcentrator tube 18 is illustrated. As illustrated in Applicants' Figure 1 and described, for example, on pages 4 and 5 of the present application, a "body" can be a monolithic or multilayered body (see page 4, last 2 lines) in which a fluid passage is formed therein. See Figures 1-5.

Vogel does not disclose or suggest forming a fluid passage and providing a tubular heater by depositing a thin resistive film inside the formed passage. Rather, the heating element 82 is formed inside of a preconcentrator tube 18 rather than a formed fluid passage in a body. Applicants submit that the lumen of the preconcentrator tube 18 is merely a portion of the preconcentrator tube 18 rather than a fluid passage formed in a body, as recited in the claims.

Additionally, concerning claim 28, *Vogel* fails to disclose or suggest at least the feature of claim 28, which includes forming the thin resistive film step comprises introducing a solution containing a platinum salt into the fluid passage, thereby depositing platinum salt lining all or a part of the length of the passage, and heating the deposited platinum salt to form a thin resistive platinum film. Rather, *Vogel* fails to disclose or suggest a solution containing a platinum salt, let alone forming a platinum resistive film, as recited in claim 28. Applicants note that a step of forming a platinum film using a platinum salt is not discussed in the Office Action or in *Vogel*.

Similarly, claim 30 recites forming the thin resistive film step comprises: (a) coating the interior of the passage with a layer of metal powder, salt, or oxide in solution, suspension, or dispersion; and, (b) heating the layer to a temperature sufficient to convert the layer to a thin resistive metal film. However, *Vogel* fails to disclose or suggest at least the feature of heating a layer to a temperature sufficient

to convert the layer to a thin resistive metal film. Rather, *Vogel* appears to disclose a vapor deposited film, thick film or thin film consisting of indium tin oxide (ITO) films and printed resistive ink films but the Office Action does not identify any teaching in *Vogel* regarding heating the layer to a temperature sufficient to convert the layer to a thin resistive metal film. Rather, the film 85 comprises a material, which when deposited forms a resistive film. See column 6, lines 11-16. Claim 31 is likewise patentable over *Vogel*.

Concerning claim 38, the Office Action is silent as to forming the fluid passage in a body comprising bonding three or more layers together wherein at least one layer includes a void therein, and wherein the void comprises at least a portion of the fluid passage. Rather, *Vogel* discloses a preformed preconcentrator tube 18.

Concerning claim 39, the Office Action is silent as to at least the feature of forming a fluid passage in a body comprising machining a rectilinear block body to form a fluid passage. Rather, as mentioned above, *Vogel* discloses a preformed preconcentrator tube 18.

Concerning claim 40, similar to claims 38 and 39, *Vogel* fails to disclose or suggest at least the feature of forming a capillary sized fluid passage in a rectilinear block or multilayer body such that fluid in the fluid passage is conducted through capillary action. Rather, as mentioned above, *Vogel* discloses a preformed preconcentrator tube 18.

Similarly, concerning claims 41 and 50, Applicants submit that *Vogel* fails to disclose or suggest forming a fluid passage in a body comprising forming a non-linear or tortuous fluid passage in a rectilinear block body or multilayer body. Rather,

the preformed preconcentrator tube 18 is linear and is not formed in a rectilinear block body or a multilayer body.

Similarly, claim 47 recites forming a fluid passage in a body comprising bonding three or more layers together, wherein at least one layer includes a void therein and wherein the void comprises at least a portion of the fluid passage.

Rather, *Vogel* discloses a preformed preconcentrator tube 18.

Additionally, concerning claim 51, *Vogel* fails to disclose or suggest forming a capillary sized fluid passage comprising forming a multilayer rectilinear block by adhering three or more layers together and forming a fluid passage in a multilayer rectilinear block by forming a void in at least one of the three or more layers before adhering the three or more layers together, wherein the void forms at least a portion of the capillary sized fluid passage. Rather, as mentioned above *Vogel* discloses a preformed preconcentrator tube 18, as illustrated in Figs. 3A and 3B. See *Vogel* col. 6, lines 49-54.

The Office Action states that *Fite* cures the deficiencies of *Vogel* in that “Fite teaches a concentrator tube having a volume that falls within the range recited by the applicant.” See page 4 of the Office Action. However, *Fite* fails to cure the deficiencies of *Vogel*. For example, *Fite* fails to disclose or suggest any of the features of the claims discussed above. Therefore, *Fite* fails to cure the deficiencies of *Vogel*.

The Office Action states that *Adachi* is recited to provide evidence that “it is well known in the art to form an ITO layer by resistance heating evaporation.” However, heating as pertaining to claim 28 involves heating a deposited platinum salt to form a thin resistive platinum film. Further, concerning claim 30, the heating

the layer involves heating a layer formed by coating a metal powder, salt, or oxide in solution, suspension or dispersion to a temperature sufficient to convert the layer to a thin resistive metal film. On the other hand, *Adachi* discloses a photoelectrolyzer comprising a number of minute solar cell elements and does not appear to be directed to a method of manufacturing a fluid vaporizing device, aerosol generator, or inhaler as recited in the pending claims. Further, *Adachi* discloses a multilayered film, unlike *Vogel*, with several solar cell element layers involved, and therefore would not be looked to by one of ordinary skill in the art for combination with *Vogel*. Additionally, *Adachi* clearly does not recognize any requirements of forming a fluid vaporizing device, an aerosol generator, or an inhaler.

The Office Action also states that “[i]t is also noted that preconcentrator tube could be used separately from the device of *Vogel* to vaporize medicament and be used as an inhaler.” See page 5 of the Office Action. However, *Vogel* fails to disclose or suggest any other uses of the preconcentrator tube disclosed therein. Applicants submit that one of ordinary skill in the art would not look to a preconcentrator tube containing sorbent material, as preconcentrator tubes have nothing to do with medicaments, or even flowing fluid therethrough.

Rather, preconcentrator tubes are used for capturing gases rather than flowing and vaporizing fluids passing therethrough. For example, *Vogel* states that preconcentrator tubes are “well known in the art and correspond to a tube for accumulating chemicals and a material for sorbing (and, therefore, accumulating the chemicals), respectively.” See *Vogel* column 1, lines 27-30. Yet, even though the preconcentrator tubes are well known in the art, there is no mention of any other uses of preconcentrator tubes in *Vogel* (or *Fite* for that matter).